

REMARKS

The application has been reviewed in light of the Office Action mailed on December 6, 2005. Reconsideration of the application is requested for the following reasons.

Claims 7 and 11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Fluckiger, U.S. Patent No. 6,068,303 ("Fluckiger"). This rejection is respectfully traversed for the following reasons.

Claim 7 recites a "screw comprising: a shank having a tip at one end and a head at the other end; a thread on said shank; [and] a knurled portion on said shank disposed between said thread and said head." Fluckinger does not teach or suggest a screw having a "knurled portion" configuration.

The Office Action asserts that a "knurl (at 6) is provided between the thread and the head" on the Fluckinger screw. Office Action, page 2. In the Response to Remarks section, the Office Action adds that the "claims do not require any specific structure of the knurled portion which would preclude the ring-like portion [of Fluckinger] from reading on the 'knurled portion.'" Office Action, page 6.

Although Applicant disagrees with these assertions, claim 7 has been amended to further distinguish over Fluckinger. Amended claim 7 now recites that the "knurled portion comprises peaks and intersecting troughs." Fluckinger fails to teach or suggest this limitation, and claim 7 allowable.

Moreover, claim 7 recites "at least one flute in said knurled portion." As discussed in paragraph [0036] of the specification, for example, the "flute 24 is

essentially a channel or a groove.” Fluckinger fails to teach or suggest this limitation. The Office Action asserts that the Fluckinger screw “includes a flute (8).” Office Action, page 2.

Applicant pointed out in the previous paper that element 8 in Fluckinger is not a “flute,” but rather a notch provided in each of the spaced apart ring-like projections 7. In the Response to Remarks section, the Office Action responds with the assertion that “the array of notches extending along [the] length of the knurled portion form a ‘flute.’” Office Action, pages 6-7. This assertion is without basis. A series of notches – that are spaced apart from each other – do not form a channel or a groove. Thus, Fluckinger fails to teach or suggest “at least one flute in said knurled portion,” and this is an additional reason for allowance of claim 7. Claim 11 depends from claim 7 and should be allowed for at least the same reasons as for allowance of claim 7.

Claims 12, 14 and 17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Searelle, U.S. Patent No. 877,131 (“Searelle”). Reconsideration is respectfully requested for the following reasons.

Claim 12 recites a screw comprising a “shank having a tip at one end and a head at the other end, said head having a lower surface,” and that the “lower surface of said head further comprises a circumferential lip.” An exemplary embodiment of this feature is shown as element 34 in Figure 3 of the disclosure. The specification, for example, discloses that the circumferential lip “extends about the circumference of the underside, or lower surface of the head 6. The circumferential lip 34 provides a surface for improved clamping of the cement board to a base material.” Specification, paragraph [0039]. The claimed invention is not limited to the disclosed embodiments.

As Applicant pointed out in the previous paper, Searelle fails to teach or suggest this limitation. The lower surfaces of the head of Searelle's screw, as shown in Figure 3, comprise "grooves 9 along the lower edge of the head" and "blunt points 10 acting to check the further inward movement of the screw." Thus, the Searelle screw does not have, and fails to teach or suggest, a "circumferential lip" formed on the "lower surface of said head."

In the Response to Remarks section, the Office Action responds with the assertion that "Searelle disclose[s] grooves 9 and it is these groove[s] which the examiner equates to the claimed circumferential lip. ... [T]here is no requirement that a 'circumferential lip' must be continuous" Office Action, page 7. Although Searelle's groove 9 is clearly not a "circumferential lip," Applicant has amended claim 12 to further distinguish over Searelle. Amended claim 12 now recites a "continuous circumferential lip," and is now clearly allowable over Searelle.

Claims 14 and 17 depend from claim 12 and are allowable for at least the same reasons as for allowance of claim 12, and for other reasons. For example, claim 17 recites the "screw of claim 12 further comprising a transition section disposed between said thread and said at least one flute." Searelle clearly fails to teach or suggest this limitation. In the Response to Remarks section, the Office Action contends that "there inherently must be some sort of 'transition section' between any two elements." Office Action, page 7.

Applicant disagrees with this assertion. For example, there is no transition section between two elements if the first element extends along the entire length of the object and the second element extends along a portion of the first element. This is the

case in Searelle, where the groove 4 extends along the entire length of the screw and a threaded portion extends along a portion of the screw. There is no transition section between Searelle's groove 4 and thread 1. Claim 17 recites a "transition section disposed between said thread and said at least one flute." Searelle fails to teach or suggest this limitation, and this is an additional reason for allowance of claim 17.

Claims 12, 14 and 17 are alternatively rejected under 35 U.S.C. 103 as being "anticipated" by Searelle in view of Lieggi, U.S. Patent No. 5, 518,352 ("Lieggi"). This rejection is traversed because it is based on an improper combination of references.

The Office Action admits that Searelle "does not disclose the lip to be an uninterrupted circumferential lip," and for this shortcoming relies on Lieggi. Lieggi discloses a drywall screw with an annular flange 26 on a flat head 20. Lieggi's drywall screw functions by having the flat head 20 seat flush with the drywall without damaging the outer surface of the drywall. Column 2, lines 48-65.

The Office Action asserts that it would have obvious to "provide the head of Searelle with [the annular flange 26 of] Lieggi because the lip provides an improved finish to the top surface and disclosed therein." Office Action, page 3. The proposed combination would serve no practical purpose and would make the Searelle screw unfit for its intended purpose.

There is no reason to add Lieggi's annular flange to the Searelle screw. Lieggi's annular flange is designed for drywall applications, and functions to seat flush and not to damage the outer surface of the drywall. The Searelle screw is a wood screw that "bores its own hole and countersinks its own head." The Searelle screw "seat[s] itself flush with the surface of the wood" (page 1, lines 9-12 and 69-70), so there is no

reason to add, as the Office Action suggests, a “lip [to] provide[] an improved finish to the surface.” There is no practical reason, let alone motivation, to make the proposed combination. The only reason for the proposed combination is to somehow account for the limitations recited in Applicant’s invention.

Moreover, the Searelle screw has, on the underside of its head, a structure to prevent rotation of the screw when seated. The Searelle screw has grooves 4 which extend to the underside of its head and “terminate bluntly … in order to stop the screw from being driven further after it is properly seated.” Page 1, lines 52-55. Adding Lieggi’s annular flange to Searelle’s screw would add another, different mechanism to stop rotation of the Searelle screw. This would prevent Searelle’s existent mechanism, which functions to stop rotations when properly seated, from performing as intended in Searelle.

For at least these reasons, Searelle and Lieggi are not properly combinable as proposed in the Office Action, and claim 12 and claims 14 and 17 dependent therefrom, are allowable. Claim 17 is also allowable for the additional reasons discussed above with respect to the rejection under Searelle.

Claims 1, 3-8, 10-15, 17, 24 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Searelle in view of Jones, U.S. Patent No. 471,179. Reconsideration is respectfully requested.

Claim 1 recites a “knurled portion on said shank …; [and] at least one flute in said knurled portion.” This is a significant innovation of the invention, as discussed in the previous paper filed by Applicant. The Office Action admits that “Searelle does not

disclose a knurled portion between the thread and head." Office Action, page 3.

However, the Office Action asserts that it would have been obvious to:

provide the shank of Searelle with a knurled portion as disclosed in Jones in order to provide the screw of Searelle with a securement means to prevent slipping during rolling of the threads (see pg. 2, l. 11-20 in Jones). The "positive lock" as described in Jones would improve the rolling of the threads in Searelle by preventing the unwanted slipping of the rolling dies.

The Office Action's proposed motivation – "to prevent unwanted slipping of the rolling dies" – is unreasonable. The Jones screw has a knurled portion for a specific functional purpose: in use, the knurled portion functions as a reamer and "will ream out the hole left by said threaded body and form a cylindrical hole." Jones adds that when manufacturing the screw, "depressions on ... the dies which roll the [reamer] will enter the blank and form a positive lock against either rotary or endwise slipping of the blank within the rolling-dies." Page 2, lines 11-20.

The Office Action relies on the ancillary manufacturing benefit disclosed in Jones to assert that it would have been obvious to add to the Searelle screw Jones' reamer. The Office Action, however, ignores: (1) the functional aspects and characteristics such a reamer would add to the Searelle screw; and (2) the interference such a reamer would cause when combined with the features of the Searelle screw.

As Applicant pointed out in the previous paper, if there was indeed a reason or motivation for such a modification to decrease slipping during manufacturing, then many screws existing in the market place would have such a knurled portion. Such is not the case. To the contrary, forming a knurled portion on screw would be done for a specific functional purpose of the screw, rather than for preventing "slipping or rolling dies."

The Office Action responds to this argument with a theory that “[p]erhaps the other manufacturers in the market place who are making screws simply do not know of Jones’ technique or perhaps they choose not to use it since a little slipping [is] not of concern in manufacturing screws for most application[s].” Office Action, page 8. The first part of this theory is not plausible – it requires one to assume that a manufacturing technique disclosed in a patent which issued in 1892 is somehow unknown to manufacturers whose business is making and selling screws. The second part of the theory actually proves the Applicant’s argument – the alleged motivation, which is the basis of the Office Action’s proposed combination, is not a motivation at all since a “little slipping [is] not of concern in manufacturing screws.” For at least this reason the rejection should be withdrawn.

More importantly, the proposed combination is improper because it fails to consider the functional aspect of the proposed combination. Jones’ screw has a reamer for a functional purpose directed to the use of the screw. In Jones, the knurled portion is formed on the screw to create a “reamer,” to “ream out the hole left by [the] threaded body and form a cylindrical hole that will be filled by the shank that reamed it.” Page 1, lines 97-100. The Office Action does not address the functional aspect of combining such a reamer with Searelle’s screw, and there is no reason to form a knurled reamer portion of Jones on the screw of Searelle.

The entire length of the Searelle screw is formed with grooves 4 that are “cut spirally across the threads” and “are extended up onto the underside of the head.” Lines 33-40; Figure 1. In use, the “grooves permit the head of the screw to seat itself flush with the surface of the wood.” Lines 59-60. Searelle is specific in that its screw is self-sufficient for its designed purpose: “The form of the screw as described cuts its

own way into the wood the grooves filling up with the saw dust and every thread of the screw embedding itself in the wood." Lines 77-78. Thus, there is absolutely no purpose for adding a knurled portion to Searelle's screw.

In the Response to Remarks, the Office Action responds by asserting that "the flutes of Searelle and knurls of Jones could individually function as intended in the combination suggested by applicant, for an overall superior screw." Office Action, page 8. This statement is an admission by the Office Action that the only motivation behind the proposed combination is "the combination suggested by applicant." It is improper to use the Applicant's disclosure as the motivation to combine references. The rejection should be withdrawn for this additional reason.

Moreover, Applicant pointed out that to add a knurled portion would preclude the grooves of Searelle from extending and functioning along the length of its screw, as required. The Office Action responds by asserting that "addition of the knurling would not prevent the flutes from cutting into the wood ... since the flutes continue beyond the knurls to the threaded portion where they still function to cut the wood and the knurls would continue to function as they were intended at their portion." Office Action, page 8. The Office Action adds that in the proposed combination "at what would be knurled portion there the flutes would not be doing any cutting." Office Action, page 8.

These statements reinforce the Applicant's arguments. The Office Action's statement admits that, if a knurled portion is added to Searelle's screw, its flutes would not function as intended in the knurled portion. According to the Office Action, the flutes would be able to cut, as intended, only where the flutes "continue beyond the

knurls to the threaded portion.” The flutes “would not be doing any cutting” in the knurled portion, according to the Office Action. But, Searelle’s flutes are intended to function along the entire length of the screw, and the proposed combination would render Searelle’s flutes non-functional where the flutes would somehow be meshed together with Jones’ reamer. A proposed modification cannot change the principle operation of a reference. MPEP 2143.01. For this additional reason, the proposed combination is improper.

Moreover, the claimed limitation requires a specific spatial arrangement between the knurled portion and the flute. Claim 1 specifically recites “at least one flute in said knurled portion.” Nothing in the references, taken alone or in combination, teaches or suggests this limitation. This is an additional reason why the rejection should be withdrawn.

For at least the foregoing reasons, claim 1 is allowable. Claims 3-6 depend from claim 1 and should be allowed for at least the same reasons as for allowance of claim 1, and for other reasons.

Claim 7 recites “a knurled portion on said shank disposed between said thread and said head; and at least one flute in said knurled portion.” As discussed above with respect to claim 1, claim 7 is allowable. Claim 8, 10 and 11 depend from claim 7 and contain every limitation of claim 7, and should be allowed for the same reasons as for allowance of claim 7, and for other reasons. For example, claim 10 recites that the “head has a lower surface and a circumferential lip on said lower surface.” Searelle and Jones, taken alone or in combination, fail to teach or suggest this limitation, and this is an additional reason for allowance of claim 10.

Claim 12 recites a “screw comprising: a shank having a tip at one end and a head at the other end, said head having a lower surface, wherein said lower surface of said head further comprises a continuous circumferential lip.” Claim 12 further recites “at least one flute on said shank disposed between said thread and said head; and at least one rib on said lower surface of said head.”

Initially, neither Jones nor Searelle teaches or suggests, whether taken alone or in combination, that a “lower surface of said head further comprises a continuous circumferential lip.” The Office Action asserts that Searelle discloses “a circumferential lip (9).” Office Action, page 3. As discussed above, Searelle fails to teach or suggest this limitation. The lower surfaces of the head of Searelle’s screw comprise “grooves 9 along the lower edge of the head” and “blunt points 10 acting to check the further inward movement of the screw.” Thus, the Searelle screw does not have, and fails to teach or suggest, a “continuous circumferential lip” formed on the “lower surface of said head.” For at least this reason claim 12 distinguishes over Searelle, and Jones does not remedy this deficiency of Searelle.

Claims 13-15, 17 depend from claim 12 and should be allowed for at least the same reasons as for allowance of claim 12, and for other reasons. For example, claim 15 recites a “second rib different from said at least one rib, said second rib extending from said lower surface of said head to a neck on said head.” The cited references, whether taken alone or in combination, fail to teach or suggest this limitation, and the Office Action does not contend to the contrary. This is another reason for allowance of claim 15.

Claim 24 is a method claim that recites “providing a screw shank having ... a knurled portion with at least one flute, and ... producing particles by rotation of said knurled portion in said particle producing material.” Claim 24 further recites the step of “transporting at least some of said produced particles from said particle producing material via said at least one flute.”

The Office Action asserts that “[o]nce the combination [of Searelle and Jones] was made, the skilled artisan would have recognized to use the screw in particle board and polymer or bulging material because those materials are well know[n] for screw attachment and therefore when screw [is] inserted in those materials the result of the particle and bu[l]ge displacement would be inherent since the structure is the same as that claimed.”

Initially, this rejection is traversed because, as discussed above, Searelle and Jones cannot be properly combined to teach or suggest “providing a screw shank having ... a knurled portion with at least one flute.” Moreover, the method step of “transporting at least some of said produced particles from said particle producing material via said at least one flute” clearly distinguishes over the references. This method step is neither taught nor suggested by anything in the cited references, whether taken alone or in combination. The Office Action’s rejection under a broad assertion that such a step would somehow be “recognized” is not supported by the MPEP. The MPEP is clear regarding the requirements for establishing *prima facie* obviousness: the references must teach or suggest all the claim limitations, and the examiner bears the burden to establish the same. MPEP §§ 2142, 2143. In this case, the requirement has not been met, and the rejection of claim 24 should be withdrawn.

The “Response to Arguments” fails to address the Applicant’s arguments. The Response states that the “method claims only add that the screw is rotated into a particle producing material.” This assertion disregards the limitation step of “transporting at least some of said produced particles from said particle producing material via said at least one flute.” This limitation is not taught or suggested by any of the references, and the Office Action does not contend to the contrary. Moreover, Searelle and Jones are wood screws, and are not intended for use with particle producing materials, such as cement board, as discussed in the specification. Specification, paragraph [0004]. The Office Action’s rejection rests on an improper combination of two wood screws, and a further leap of imagination that such a fictional screw would be used in a particle producing material to perform a method step which is not taught or suggested anywhere in the references. This rejection is untenable.

Claim 25 is also a method claim, reciting “providing a screw shank having a ... knurled portion ...; [and] providing a bulge producing material.” The method further recites “producing a bulge on a surface of said bulge producing material by rotation of said thread into said bulge producing material; [and] displacing said bulge into said bulge producing material via said knurled portion.” For reasons similar to those discussed above with respect to claim 24, *prima facie* obviousness has not been established, and the rejection of claim 25 should be withdrawn.

Claims 2 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Searelle in view of Jones or Searelle alone as applied to claims 1 and 12 above, and further in view of Koing, U.S. Patent No. 5,772,379 (“Koing”). Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fluckiger or Searelle in view of Jones as applied to claim 7 above, and further in view Farrell, U.S. Patent No. 4,653,244

("Farrell"). These rejections are respectfully traversed because they are based on improper rejections of base claims of dependent claims 2, 9 and 15. As discussed above, base claims 1, 7 and 12 are allowable, and claims 2, 9 and 15 dependent therefrom, respectively, are also allowable.

Moreover, the Applicants do not agree with the improper combinations proposed by the Office Action. For example, the Office Action asserts that the motivation to combine Koing with Searelle and Jones is to "provide an improved countersink means by improving the cutting action and chip as discussed in Koing." Office Action, page 4. Searelle already has specific and unique features on the head and neck of its screw such that the screw "bores its own hole and countersinks its own head." Page 1, lines 9-10. Thus, Searelle already has a fully functional "countersink means." Why would a skilled artisan further complicate Searelle's fully sufficient design, and further complicate the manufacturing process, to achieve nothing extra? The answer is that a skilled artisan would not make such a modification. The only reason for the proposed combination is to somehow come up with a combination of features to reject the Applicant's invention.

Claims 18, 19 and 21-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jones in view of Koing. Reconsideration is respectfully requested for the following reasons.

Claim 18 was amended in the previous paper to recite a "knurled portion on said shank disposed between said thread and said head, and at least one flute in said knurled portion and extending onto at least a portion of said thread." Jones and Koing, whether taken alone or in combination, fail to teach or suggest this claim limitation. For

at least this reason, amended claim 18 is allowable. Claims 19 and 21-23 depend from claim 18 and should be allowed at least for the same reason, and for other reasons.

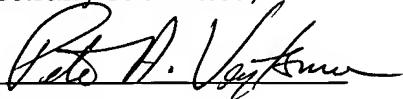
The Office Action does not respond to the amendment and argument regarding claim 18. For this reason, Applicant submits that the finality of the Office Action should be withdrawn, and another Office Action should issue to address claim 18.

Claims 10 and 21 are alternatively rejected under 35 U.S.C. § 103 as being unpatentable over Searelle in view of Jones and Jones in view of Koing as applied to claims 7 and 18 respectively, and further in view of Lieggi. This rejection is traversed. Claim 7 distinguishes over Searelle in view of Jones, and claim 18 is allowable over Jones in view of Koing, as discussed above. Lieggi adds nothing to remedy the deficiencies of the references with respect to claims 7 and 18, and, thus, dependent claims 10 and 21 are allowable for at least the same reasons their base claims are allowable.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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